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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/733,499
Filing Date: December 10, 2003
Appellant(s): PIKUS ET AL.

Jeremy G. Laabs
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/21/08 appealing from the Office action mailed 8/21/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,144,815	CUMMING	3-1979
6,176,168	KEIL	1-2001
4,495,851	KOERNER	1-1985

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-14, 16-18 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cumming et al. (US Patent # 4,144,815) in view of Keil (US Patent # 6,176,168). Cumming et al. discloses the claimed system and method for utilizing the system for programming a fuze comprising;

a fuze having a power and data (radio frequency) receiver (column 3, lines 3-25),

a fuze setter having a power and a data (radio frequency) transmitter (reference 32),

wherein pre-launch fuze setting data is transmitted from the RF transmitter to the receiver via an RF electromagnetic signal and is received by the RF data receiver. The data transmitter comprises a modulation circuit and an antenna and analog to digital converter. The fuze setting data is transmitted via a frequency modulated carrier signal by shifting the frequency (column 3, lines 3-25) (i.e. frequency shift keying/level shifter). Although Cumming et al. does not expressly disclose the system wherein the fuze further includes an inductive power transmitter and an inductive power receiver for inductively transmitting operational power to the fuze, Keil et al. does. Keil et al. teaches an improved circuitry for a system wherein a fuze has a receiver

and a transmitter (i.e. transceiver) and a fuze setter has a receiver and transmitter (i.e. transceiver), wherein pre-launch fuze setting data is transmitted to the fuze and a talkback signal is sent from the fuze to the fuze setter in order to improve communication between the fuze and the fuze setter. Keil et al. further teaches a system wherein operational power for the fuze is inductively transmitted from the fuze setter to the fuze and including digital-to-analog converters (column 4, lines 37-40). The power transmitter comprises an inductive coil (reference 24) and operational power for the fuze is inductively transmitted from the fuze setter to the fuze (column 4, lines 15-20), a receiver and a talkback signal sent from the fuze transceiver to the fuze setter transceiver via the coil (i.e. antenna). Keil et al. discloses the message is transmitted at 100KHz (column 2, lines 20-25) Keil et al. and Cumming et al. are analogous art because they are from the same field of endeavor: fuze setting. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the talkback features, the inductive operational power transmission, and digital-to-analog converters as suggested by Keil et al. with the system as taught by Cumming et al., since the operation of one element is in no way dependent on the operation of the other element and the various signals could be used to achieve the predictable results of transmitting more information. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time the invention was made. Keil et al. and Cumming et al. teach alternate devices which achieve similar results, thus it would have been obvious to one of ordinary skill in the art to make the simple substitution of one known, equivalent element for another to obtain the predictable result of dual power and data

transmission and therefore faster firing and there would have been a reasonable expectation of success. It is noted that the [a) statements of intended use or field of use, b)"adapted to" or "adapted for" clauses, c) "wherein" clauses, or d) "whereby"] clauses are essentially method limitations or statements of intended or desired use. Thus, these claims as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference. See *In re Pearson*, 181 USPQ 641; *In re Yanush*, 177 USPQ 705; *In re Finsterwalder*, 168 USPQ 530; *In re Casey*, 512 USPQ 235; *In re Otto*, 136 USPQ 458; *Ex parte Masham*, 2 USPQ 2nd 1647.

See MPEP § 2114 which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ 2nd 1647

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. *In re Danly*, 120 USPQ 528, 531.

Apparatus claims cover what a device is not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528.

As set forth in MPEP § 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

Cumming et al. and *Keil et al.* disclose the claimed invention except for the express optimum bits/second and distance. It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the number of bits/second that could be transmitted and to place the transmitter at an optimum distance from the receiver, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges and discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Aller*, 105 USPQ 233 and *In re Boesch*, 617 F.2d 272.

3. Claims 15, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cumming et al. and Keil et al. as applied to claim 24 above, and further in view of Koerner et al. (US Patent # 4,495,851). Although neither Cumming et al. nor Keil et al. expressly disclose the energy and data signal transmitted simultaneously, Koerner et al. does. Koerner et al. teaches a system for programming a fuze and transmitting energy and data to a fuze, the system comprising a fuze (reference 5) comprising a receiver and a transmitter (i.e. transceiver), the receiver and transmitter located within the fuze (column 6, lines 32-45), and a fuze setter having an energy/power transmitter, a data transmitter, and a reply signal receiver (i.e. transceiver) (column 6, lines 10-20), wherein the transmitter transmits an electromagnetic signal transmitted via a radio channel comprising pre-launch fuze setting data and operational power and the receiver receives the electromagnetic signal, wherein the fuze data and energy are simultaneously transmitted (abstract and column 33, lines 15-25 and 35-36). The fuze sends a reply signal to the fuze setter to verify setting data (column 7, lines 15-17). Koerner et al. further teaches an antenna (reference 18) at the fuze to ensure a trouble-free radio connection. Koerner et al., Keil et al. and Cumming et al. are analogous art because they are from the same field of endeavor: fuze setters. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the simultaneous energy and data setting as suggested by Koerner et al. with the system as disclosed by Cumming et al. as modified by the suggestion of Keil et al., since the operation of the various elements is no way dependent on the other elements and simultaneous setting could be used in combination with a standard programming system to achieve the predictable results of faster programming. The claim would have been obvious because the technique for improving a particular class of devices (simultaneous

transmission) was part of the ordinary capabilities of a person of ordinary skill in the art, in view of the teaching for the technique for improvement in other situations. Keil et al., Cumming et al. and Koerner et al. each teach alternate devices which achieve similar results, thus it would have been obvious to one of ordinary skill in the art to make the simple substitution of one known, equivalent element for another to obtain the predictable result of simultaneous dual power and data transmission and therefore faster firing and there would have been a reasonable expectation of success.

(10) Response to Argument

Issue 1

Appellant contends that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Appellant further contends that the proposed combination does not have a reasonable expectation of success. Each of the references discloses systems and methods for programming a fuze. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention, knowledge gleaned from the appellant's disclosure would not be necessary to suggest the combination to one of ordinary skill in the art. Furthermore, as appellant

acknowledges (Appeal Brief *p* 8 // 8-9), Cumming et al. and Keil et al. teach alternative devices and methods for achieving similar results--powering and setting a fuze; therefore the simple substitution of one known, equivalent element for another element in the alternative devices would have yielded predictable results to one of ordinary skill in the art at the time of the invention and there would have been a reasonable expectation of success. With respect to independent claims 1, 5, 21 and 24 Cumming et al. teaches a system that can be used for programming a fuze, the system transmits both operational power and data to the fuze utilizing a radio frequency transmitter (i.e. the system transmits both operation power and data via an electromagnetic signal) from a radio frequency (RF) transmitter in a fuze setter to a RF receiver in a fuze (column 1, lines 25-45, 60-65; column 2, lines 4-8, 15-27, 53-68; column 3, lines 3-7). Keil et al. also teaches a device having a similar result: a system that can be used for programming a fuze, the system transmits both operational power and data to the fuze, the fuze having a power receiver and a data receiver and a fuze setter having a power transmitter and a data transmitter. The operation power for the fuze of Keil et al. is inductively transmitted from the power transmitter to the power receiver, the power transmitter comprising an inductive coil. Both Cumming et al. and Keil et al. teach devices and methods for achieving a similar result, therefore the results of substituting elements in one device for elements in the other device would have been predictable to one of ordinary skill in the art and there would have been a reasonable expectation of success. The RF data receiver and transmitter function just as they are expected to function. The power receiver and power transmitter comprising an inductive coil function just as they are expected to, therefore the device does not create some new synergy: the combination thereby yields a predictable result. In response to appellant's argument that the individual

components would need to be dissected, modified and commingled, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). It appears that appellant mistakenly argues that the resulting device would comprise a fuze setter having two operational power transmitters and two data transmitters and fuze having two power receivers and two data receivers (Appeal Brief *p* 12 ¶ 3). However it is noted that it is what the combined teachings of the references would have suggested to one having ordinary skill in the art. The references teach alternate devices having similar results; in view of the references one of ordinary skill in the art would recognize that power could be transmitted to a fuze utilizing an inductive coil and power receiver and that data could be transmitted utilizing a RF transmitter and RF receiver and that based on the teaching of the references there would be a reasonable expectation of success.

Dependent Claim 3

Appellant contends that dependent claim 3 of the present application differs from the "talkback" function of the Keil et al. reference in that the present application recites an "antenna", it is noted that the inductive coil of Keil et al. functions as an antenna and therefore meets the claim language of "a data transmitter having an antenna" in that the claims do not recite a certain type of antenna.

Dependent Claim 4 and 11

Appellant contends that Cummings et al. does not disclose the data transmitter within 6 inches of the data receiver. As noted in the Final Action dated 8/21/07, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place the transmitter within 6 inches of the data receiver, since it has been held that were the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Dependent Claim 6 and 7

Cummings et al. teaches a RF transmitter and a RF receiver. Keil et al. teaches a fuze comprising a "talkback" function. A transceiver is merely a combination transmitter/receiver. It is the combination as suggested by the teachings of Cummings et al. with Keil et al. that would suggest a transceiver to one of ordinary skill in the art. The interaction of multiple components means that changing one component often requires others to be modified as well and designers would have had reason to make pre-existing complementary claimed components work within the new context.

Keil et al. teaches a talkback function (column 2, lines 10-20). It is the combination as suggested by the teachings of Cummings et al. with Keil et al. that would suggest talkback signal sent via a RF transceiver to one of ordinary skill in the art. The interaction of multiple components means that changing one component often requires others to be modified as well and designers would have had reason to make pre-existing complementary claimed components work within the new context.

Dependent Claim 16 (depends also from dependent claim 3, discussed above)

Cummings et al. teaches a RF transmitter and a RF receiver. Keil et al. teaches a fuze comprising a "talkback" function (column 2, lines 10-20). It is the combination as suggested by the teachings of Cummings et al. with Keil et al. that would suggest a reverse transmission of data comprising a radio signal to one of ordinary skill in the art. The interaction of multiple components means that changing one component often requires others to be modified as well and designers would have had reason to make pre-existing complementary claimed components work within the new context.

Dependent Claim 17

Cummings et al. and Keil et al. both teach transmitting the operational power and the data in a single setting, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

Issue 2

Appellant contends that the examiner erred in rejecting claims 15, 25 and 26 under 35 U.S.C § 103 over Cumming et al. in view of Keil et al. and further in view of Koerner et al. but does not specifically address the teachings of Koerner et al. and rather reiterates the previous arguments concerning the combination of Cumming et al. and Keil et al. The reference of Koerner et al. is relied upon for the teaching of simultaneous transmission of the operational power and the fuze setting data. It is the teachings of Koerner et al. in combination with the teachings of Cumming et al. and Keil et al. that is relied upon for the rejection of the present

claims. It is what the combined teachings of the references would have suggested to one of ordinary skill in the art and that the combination would have yielded predictable results and that one of ordinary skill in the art would have a reasonable expectation of success upon combining that which was suggested by the prior art.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Conferees:

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